



PlayStation 4 Pro Teardown

We tore down the mid-gen refresh, the PlayStation 4 Pro on Friday, November 11, 2016.

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INTRODUCTION

The world of video game platforms has been changing quickly. Manufacturers have resorted to mid-gen refreshes to keep up with 4K TVs and VR headsets. Last month we tore apart the [PS4 Slim](#), and now we're tackling the third iteration of this generation. We may be amateur gamers, but we're revved up to tear the PlayStation 4 Pro down, professionally.

Game on! Keep up with us on [Facebook](#), [Instagram](#), or [Twitter](#) for all the latest game console and VR hardware teardowns.

[video: <https://www.youtube.com/watch?v=zXWCgjF4af4>]



TOOLS:

- [Phillips #0 Screwdriver](#) (1)
 - [T8 Torx Screwdriver](#) (1)
 - [Tweezers](#) (1)
 - [Spudger](#) (1)
 - [iFixit Opening Tools](#) (1)
 - [Canned Air](#) (1)
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Step 1 — PlayStation 4 Pro Teardown



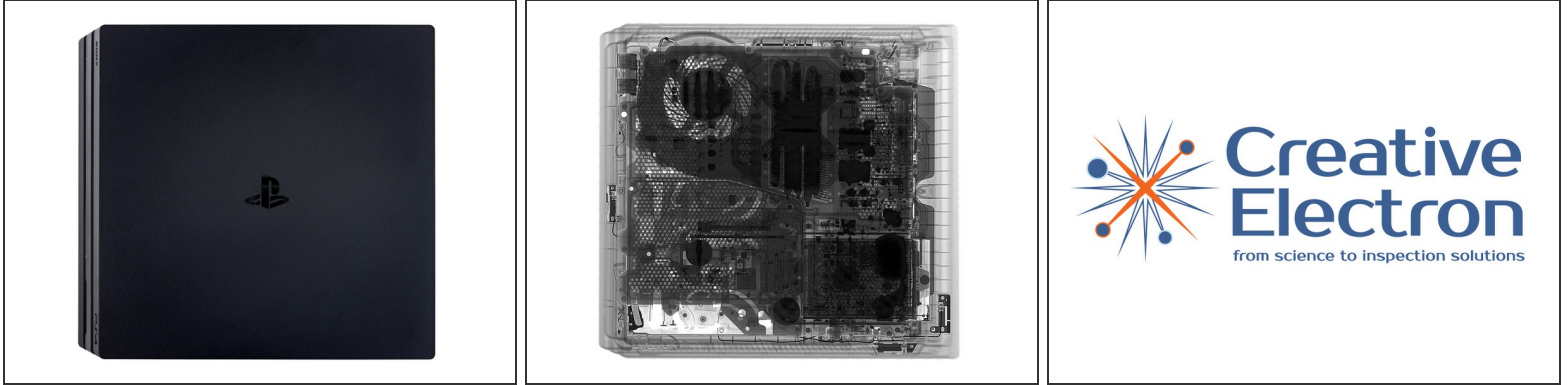
- Since this is the third version of the PS4, maybe we should call it the PS4 3? Anyways, here are the specs:
 - 8-core AMD "Jaguar" X86-64 CPU, clocked at 2.1 GHz (up from 1.6 GHz)
 - 4.2 TFLOPS AMD Radeon-based graphics
 - 8 GB GDDR5 RAM + 1 GB DRAM
 - 1 TB removable and upgradeable hard drive storage
 - 802.11 a/b/g/n/ac, Ethernet, and Bluetooth 4.0 (LE)
 - Blu-ray × 6 CAV, DVD × 8 CAV


Step 2



- Hamburger, meet Big Mac—the Pro version has one layer on the Slim version. It's also quite a bit bigger overall.
- ⓘ This behemoth still carries the label *PlayStation 4*, but the model number on ours is CUH-7015B. We also spot a couple "Warranty void if removed stickers" (booo) and tons of different ports (yay!):
 - Power
 - HDMI 2.0
 - PlayStation extension port
 - S/PDIF optical audio output
 - USB 3.0
 - Ethernet

Step 3



- When you're exploring unknown territory, it helps to have a map.
 - We called up our buddies at [Creative Electron](#), and they put their X-ray vision to good use.
-  So far we're expecting to find... [bees?](#) And a big fan. I'm not the only one who sees [honeycomb](#), right?

Step 4



- This triple-decker design is a little different from the ["first" fourth PlayStation](#) we tore down, but that doesn't stop our teardown engineers—without wasting time, we flip the console over, pop the first panel, and hit pay dirt!
- A single, standard Phillips #0 screw stands between us and hard-drive-swapping glory. Now that's what I'm talkin' 'bout.
- ★ Replacements are awesome, and in keeping with a long tradition: every PlayStation to use a hard drive has had a *user-replaceable* hard drive.
 - Like the original [PlayStation 3](#)
 - ... and the [Slim](#)
 - ... and the [Super Slim](#)
 - ... right up to the original [PlayStation 4](#) and [PlayStation 4 Slim](#).

Step 5



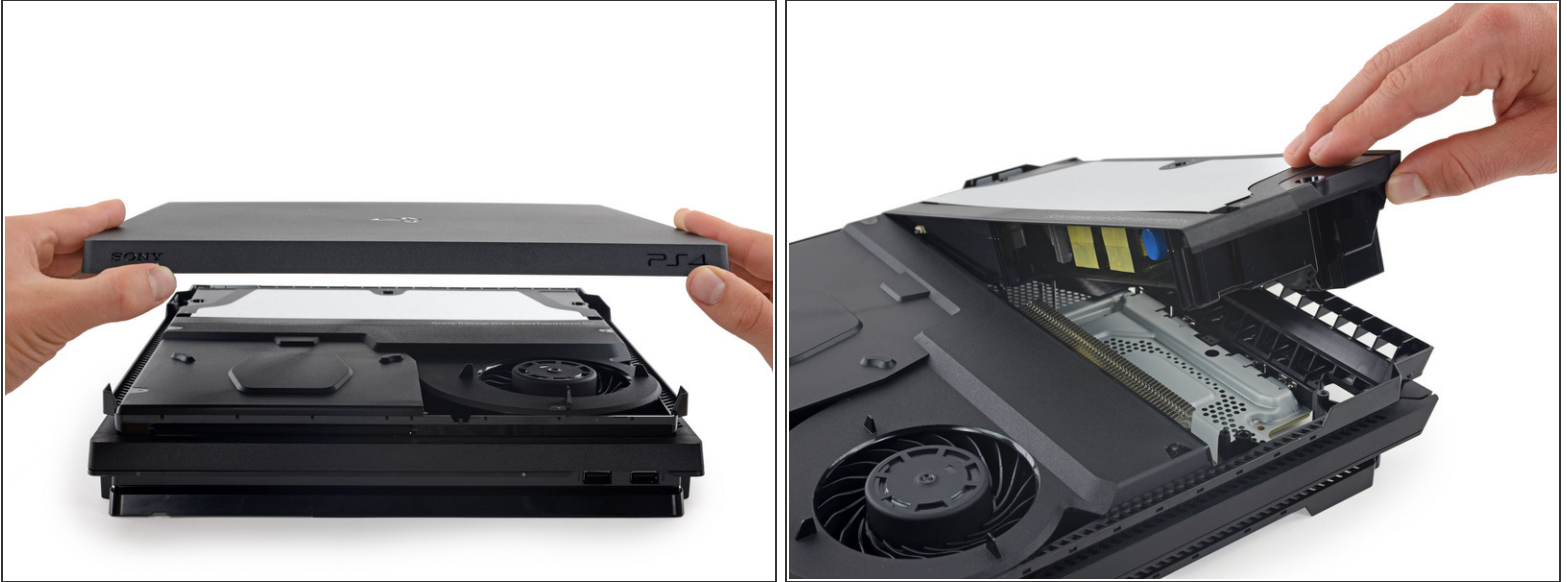
- And just a couple more Phillips screws later, the 2.5" HGST [HTS541010A9E680](#) hard drive is free from its [caddy shackles](#).
 - While the PlayStation team boasted about the Pro's SATA III *support*, this stock hard disk drive is rated at 3.0 Gb/s (SATA II).
 - Or is it? According to [various online sources](#), this guy is actually a 6.0 Gb/s HDD. Regardless, at 5400 RPM this platter drive will never reach SATA III speeds and is pretty similar to the drive we found in [2013](#).
- ❗ No worries, though—armed with the right tools and some elbow grease (and a [snazzy new 6.0 Gb/s SSD](#)), you can cut your ~~lag~~ load times in half and get back to gaming.

Step 6



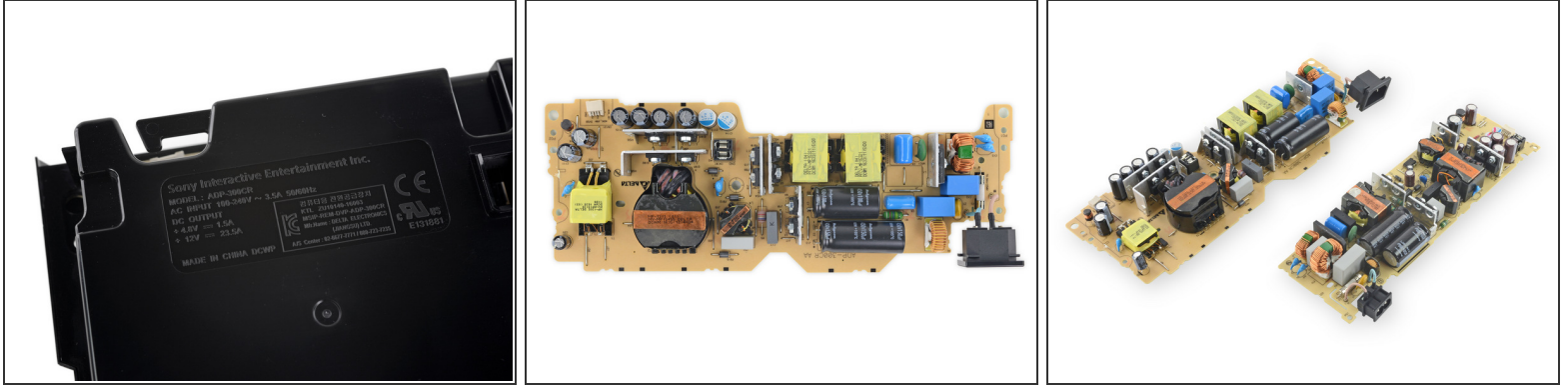
- As expected, we're gonna have to remove these "Warranty void if seal removed" stickers to go any further.
 - Adding a bit of insult to injury, the screws hidden beneath are *Security Torx* screws—specifically designed to stop you getting in.
 - Luckily, even the most dastardly screw head is no match for our [64 Bit Driver Kit](#). With the case cracked open, we can remove this large metal shield.
 - Unfortunately, all this does is give us a view of the motherboard's backside.
- ☒ Based on our experience with the PS4 Slim, we decide to flip everything over and see if the grass is any greener on the other side...

Step 7



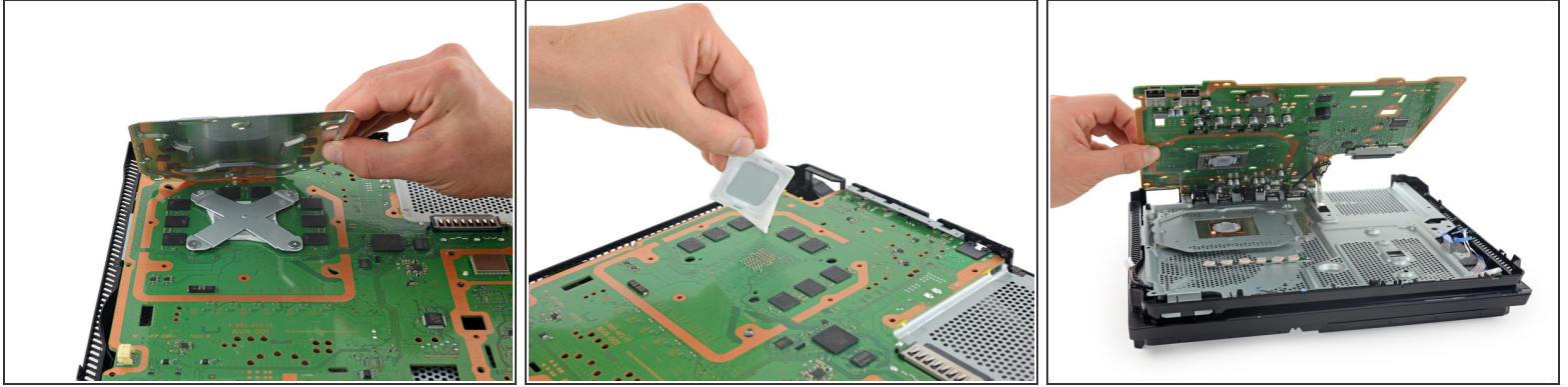
- With the beast on its back, the opposite panel pops off after some prodigious prying—but no "warranty void" stickers!
- Alas, removing this panel isn't the *panel-cea* we were hoping for. We can pull out the power supply, but nothing else.
- While you can't remove the fan, you could certainly clean it from here—maybe that's why we're granted this non-warranty-voiding access zone.

Step 8



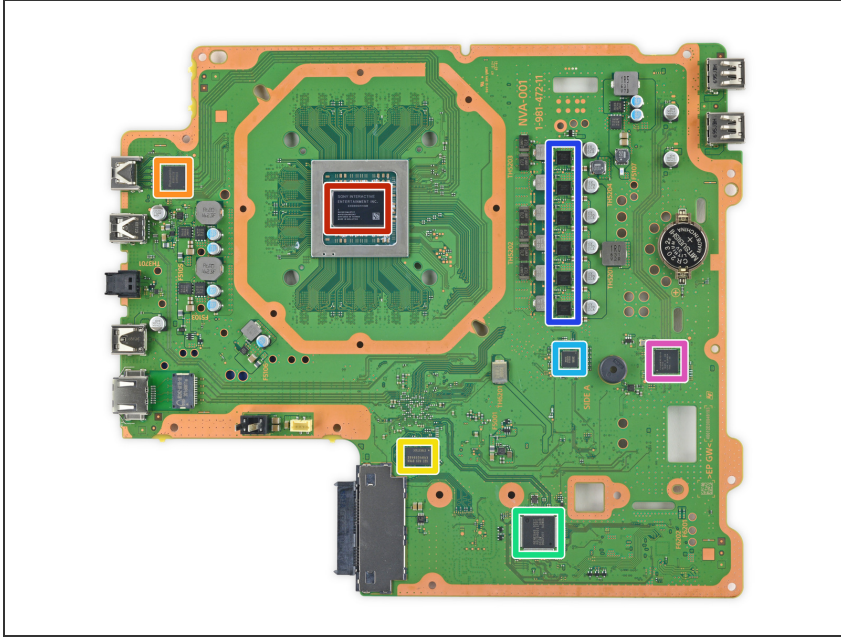
- With the top panel removed, we focus our attention towards the power supply unit.
- ❗ Unlike the 2013 model, which topped out at 165 W, this PSU dishes out 289 W of power (1.5 A @ 4.8 V + 23.5 A @ 12 V).
- 🔧 According to the [official technical specifications](#), the PS4 Pro pulls 310 W of power total. The balance is probably spent in transforming power from AC to DC.
- And now for the million dollar question: *Why is this console so much bigger than the original?*
 - ❗ For comparison purposes, we lined up the PSU from the PS4 Pro (left) and the original PS4 (right). While there's only an 74.2 g difference between the two units, the requisite heat pipe and fan add a bit more bulk to the Pro to wick away excess heat generated by the additional GPU.

Step 9



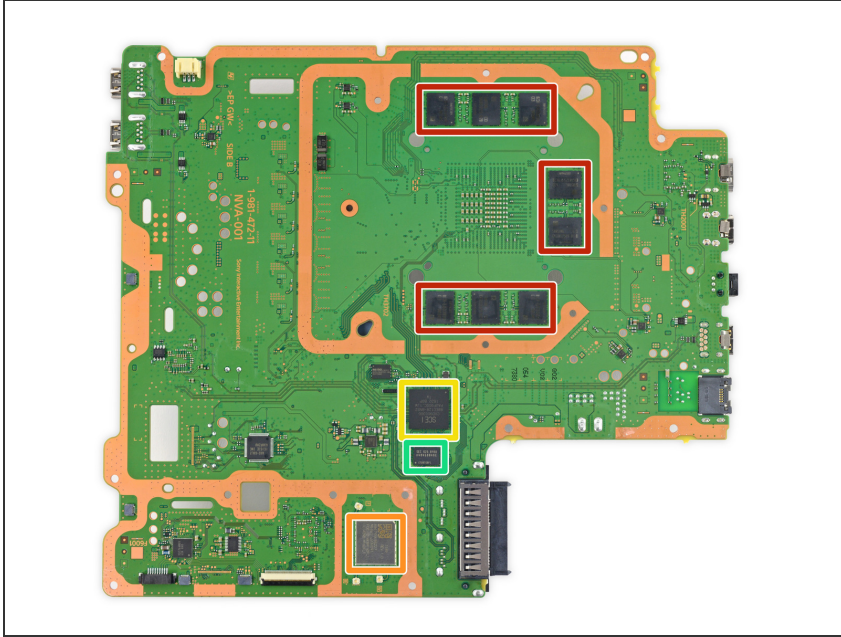
- ✦ Thwarted by the lack of any more screw heads on the PSU-side of the PS4 Pro, we flip it *back* over and flip our attention to the the motherboard.
- Burrowing through a layer of shielding behind the CPU reveals this cool X-shaped retaining bracket, similar to ones we found in [another console](#).
 - And directly underneath it, we dig up a plastic-and-metal cover that looks to be the consumer electronics version of a [pizza saver](#), protecting the back of the board from the heat sink retaining bracket.
 - Lifting the motherboard reveals a lot more thermal management. Highlights include a giant copper heat sink and dedicated pads for six chips on the motherboard.

Step 10



- Let's take a closer look at the front side of the motherboard:
- SCEI (Sony Computer Entertainment, Inc.) CXD90044G SoC (includes AMD "Jaguar" Cores and AMD Radeon GPU)
- Panasonic MN864729 HDMI transmitter
- Samsung [K4B4G0846E](#) 512 MB DDR3 SDRAM
- Renesas SCEI R9J04G011FP1
- International Rectifier 35218 V625P 5VNQ
- Fairchild Semiconductor DG26CF FDMF 6840C
- Cypress [CYUSB3312](#) USB 3.0 hub controller

Step 11



- And bringing up the rear:
 - 8 x Samsung [K4G80325FB](#) 8 Gb GDDR5 (1 GB × 8 = 8 GB)
 - Sony [J20H091](#) Wireless Communication module (Marvell Avastar [88W8897 underneath](#))
 - SCEI (Sony Computer Entertainment, Inc.) [CXD90036G](#)
 - ⓘ This is a Custom ASIC on Marvell's 88EC128-BNS2
 - Samsung [K4B4G0846E](#) 512 MB DDR3 RAM

Step 12



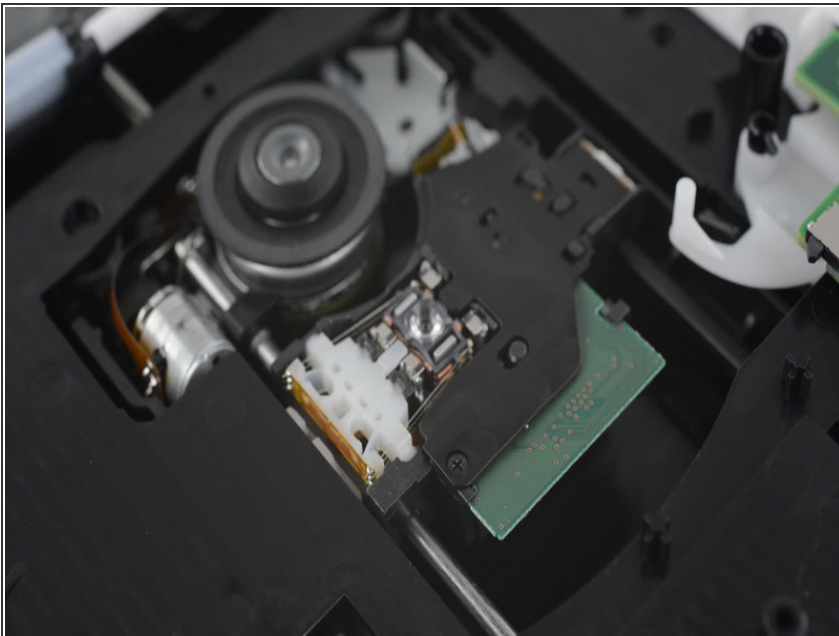
- The fan and optical drive seem almost within reach—and yet they're screwed in from the bottom, where a large heat pipe assembly keeps guard. However, we're not scared.
 - ⚠ Okay, we lied—[we're a little scared](#).
- We manage to extract the heat pipe gear without serious injury, clearing our way to that spinny thing that blows air.
- This Nidec fan is rated for 2.1 amps at 12 volts, or 25.2 watts. So *that's* where all that extra PSU power is going...

Step 13



- We pluck out the optical drive, claw-game style.
- We do some more clawing (and unscrewing) to get this beast open. We find:
 - A lot of springs.
 - A lens assembly on a track, with some sweet stabilization action.
 - And some sweet gears.

Step 14



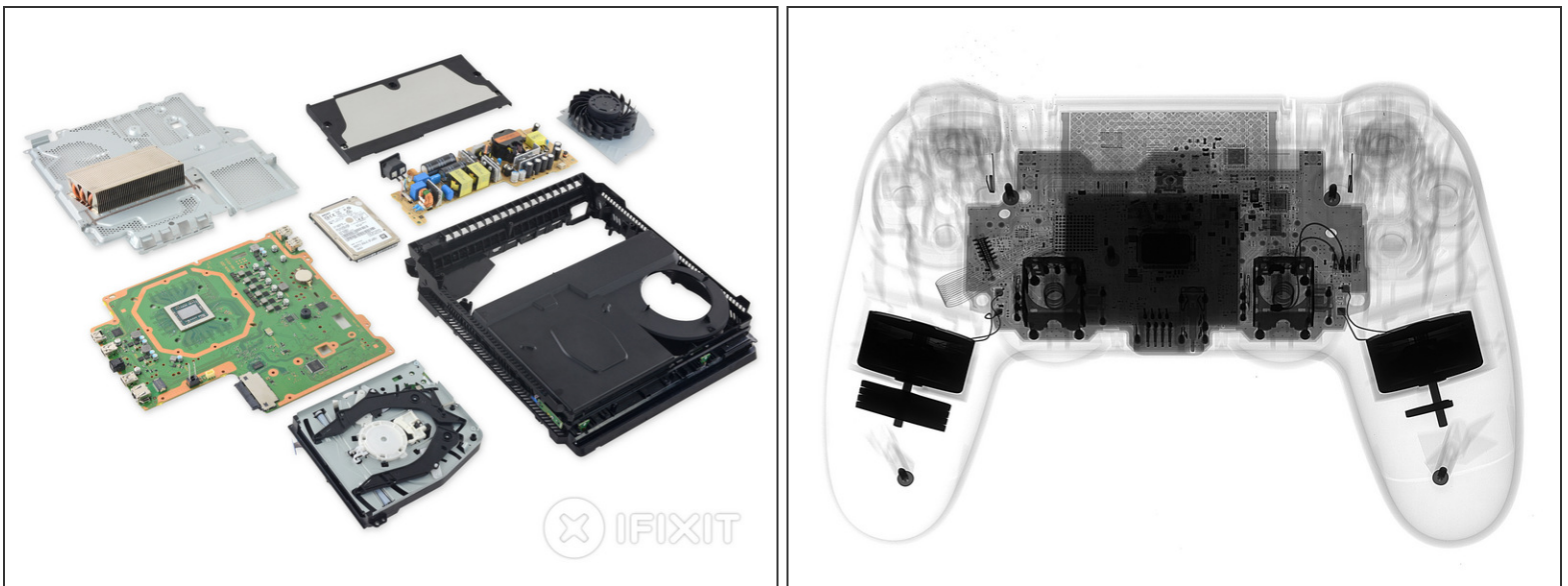
- The optical drive's laser pickup assembly is [ready for its closeup](#).
- ⚠ Remember to deactivate your [lasers](#) before poking them.
- We use a little compressed air to move the pickup arm. It's super responsive and likely does a great job with skip protection.
- ⓘ Handy for gaming while ['froadin](#), or while living in California.


Step 15



- With some determined prying, we remove this triple-decker PS4's middle tier. Turns out it's just a plastic frame, which we quickly pull away, revealing a final component or two.
- This LED light guide catches light from the LEDs on the left-hand board, and also serves as the button covers for the mechanical switches on the two right-hand boards.

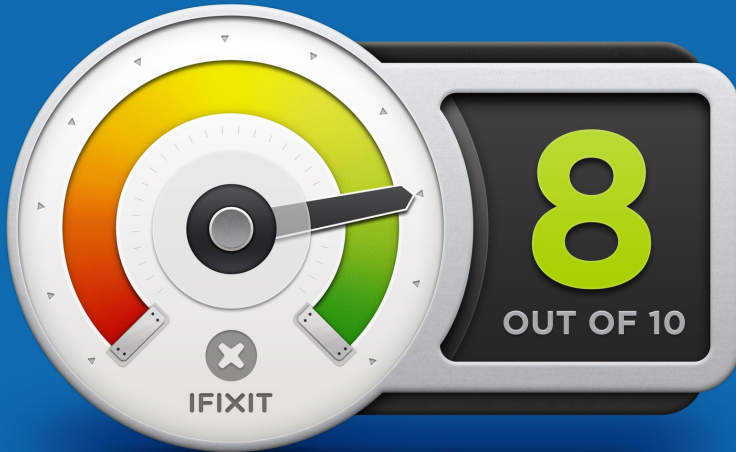
Step 16



- PlayStation 4 Pro, deftly disassembled.
-  Miss the PS4 Slim teardown? Check out our speedrun [video teardown on YouTube](#).
- And because we love you, here's a bonus [X-ray](#) image of the PS4 Pro controller.

Step 17 — Final Thoughts

REPAIRABILITY SCORE:



- Sony PlayStation 4 Pro Repairability Score: **8 out of 10** (10 is easiest to repair):
 - No adhesive makes disassembly and reassembly easy.
 - The non-proprietary hard drive is simple to access and upgrade/replace—and doing so will not void your warranty.
 - While you can freely clean the fan, removing it—and other components—requires lots of (warranty-voiding) disassembly.
 - Security screws and tamper-evident seals discourage users from disassembling and repairing their PS4.

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